



## Glycylglycine

**Catalog No:** 05008  
**Lot No:** XXXXX  
**Cas No:** 556-50-3  
**Formula:** C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>  
**MW:** 132.12  
**Supplied as:** solid  
**Stability:** store at room temperature, dark and dry

### Background

Glycylglycine is the dipeptide of glycine, making it the simplest peptide. The compound was first synthesized by Emil Fischer and Ernest Fourneau in 1901 by boiling 2,5-diketopiperazine (glycine anhydride) with hydrochloric acid. Shaking with alkali and other synthesis methods have been reported. Because of its low toxicity, it is useful as a buffer for biological systems with effective ranges between pH 2.5-3.8 and 7.5-8.9, however, it is only moderately stable for storage once dissolved. It is used in the synthesis of more complex peptides. Glycylglycine has also been reported to be helpful in solubilizing recombinant proteins in *E. coli*. Using different concentrations of the glycylglycine improvement in protein solubility after cell lysis has been observed.

### Tests

**Appearance:**  
**Assay (titr.):**  
**pH (1%; H<sub>2</sub>O):**  
**Loss on drying:**  
**Heavy metals (as Pb):**  
**Other amino acids:**  
**Chloride:**  
**Iron:**  
**Arsenic:**  
**Sulfate:**  
**Residue on ignition:**

### Specifications

white crystals  
≥98%  
5.5 – 5.9  
≤0.2%  
≤0.001%  
not detectable  
≤0.02%  
≤0.003%  
≤0.0001%  
≤0.02%  
≤0.1%

### Usage

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